ENT. LIBRARY
15MAR1945
U.S.A. 109

The
Florida Entomologist

Official Organ of the Florida Entomological Society

VOL. XXVII NOVEMBER, 1944 NO. 3

Fwd Jan 15 1945 see p. 102

DR. E. W. BERGER

For the third time inside of a year, it becomes our painful duty to record the death of one of the best known and best beloved of our members. A charter member of our Society, past secretary and past president and associate editor of the Florida Entomologist — Dr. E. W. Berger. He died in Gainesville on August 24, after a brief illness. Dr. Berger was president of our Society in 1917; secretary-treasurer in 1918 and secretary in 1933-34. He was business manager of the Florida Entomologist from 1919 to 1942 and associate editor in 1917-1918 and again from 1932 until the time of his death.

Dr. Berger was born in Berea, Ohio on November 29, 1869. He received his A.B. from Baldwin-Wallace College in 1891 and Ph.B. in 1894. He received his doctor's degree from Johns Hopkins in 1899. He held the chair of biology in Baldwin-Wallace during 1899-1901. Later he

studied at the Lakeside Laboratory of Ohio State University at Cedar Point. In 1906, he came to the University as entomologist of the Experiment Station, then located at Lake City, a position which he held until 1911, at which time he became state nursery inspector. In 1913, he became the Entomologist to the newly formed State Plant Board. Failing eyesight and a chronic disease, forced his retirement from active duty in 1943.

Dr. Berger will be best known for his research and activity in the control of citrus insects, especially whitefly, by the use of entomogenous fungi, particularly the red Aschersonia. He developed the method of growing this fungus on sweet potatoes and until 1943, supplied it to growers. Many hundreds of cultures were sent out each year. For this work, and an exhibit at the International Entomological Congress in London in 1912, he received a silver medal. In the words of a former Chairman of the Board of Control (Wartman) "He was the man who put the 'fun' in 'fungus' ". At the same time, he raised and distributed to growers, the Australian lady beetle (Vedalia) for the control of the cottony cushion scale on citrus and other trees.

It was he who made the discovery that the whiteflies ordinarily attacking citrus in Florida were of two species, the "common citrus whitefly", *Dialeurodes citri* (Ash.) and the "cloudy-winged whitefly", *D. citrifolii* (Morgan) which he named *Aleurodes nubifera.*

Dr. Berger was the first to discover the citrus canker in Florida and was very active in the campaign which resulted in its eradication, and he was also active in that of the Mediterranean fruit fly.

He was a member of the American Association for the Advancement of Science, the Entomological Society of America and the American Association of Economic Entomologists. He was a member of the Ohio Academy of Science and very active in the State Horticultural Society.

Dr. Berger was the author or co-author of several bulletins of the Florida Agricultural Experiment Station, especially on whitefly studies; articles in the annual reports of the Experiment Station, and in the Quarterly Bulletin of the State Plant Board; and numerous papers read before the State Horticultural Society.

He is survived by his widow, Mrs. Emily Muller Berger of Gainesville, a daughter, Mrs. E. G. Hume, and a granddaughter, Miss Peggy Hume, both of Florala, Alabama.—Editor.

In spite of his busy professional duties, Dr. Berger found time to be intensely interested in the liberal political life of his country.

He will be sorely missed in the meetings of our Society and those of the State Horticultural Society, both of which meetings, he seldom missed.

ADDITIONS TO THE LACHNINI OF FLORIDA

(Homoptera: Aphididae)[1]

A. N. TISSOT

In August 1939, the writer published some notes on the lachnids of Florida.[2] An attempt was then made to bring together all records and information pertaining to the occurrence, distribution and host plants of these insects in Florida. Since the publication of that paper, 78 collections of lachnids have been recorded from the state. Two species were taken which had not been known to occur here and two apparently undescribed species were discovered. Some additional plants have been added to the list of known hosts of these aphids and other new host relationships have been found. Unless otherwise indicated, all collections of aphids here recorded, were made by the writer.

Essigella pini Wilson

Specimens have been collected on loblolly pine, *Pinus taeda* L., Gainesville (Sugarfoot), 4/29/1940, F-1905-40; Gainesville (Agri. Exp. Sta.), 4/10/1941, F-2149-41 and 5/4/1942, F-2352-42; on pond pine, *P. serotina* Michx., Micanopy, 4/14/1941, F-2165-41; and on slash pine, *P. palustris* Mill., Gainesville, (Univ. of Fla. Campus), 12/13/1943, F-2416-43.

Eulachnus rileyi (Williams)

The discovery of this aphid at Gainesville in December, 1943, raises some interesting and puzzling questions. Apparently, specimens of this species had never been seen or taken in Florida before that time. For a few weeks during the last half of December and the first half of January, 1944, it was extremely abundant in this vicinity. It was found on all species of pines growing here and practically every tree examined was found

---

[1] Contribution from the Entomology Department, Florida Agricultural Experiment Station, Gainesville, Florida. Published January 15, 1945.

[2] Notes on the Lachnini of Florida. Florida Entomologist 22: 33-48, 1939.

to be infested. Hundreds of alate and apterous viviparous females and nymphs could be taken by thrusting the tips of a few branches into an insect net and shaking them vigorously. A very few males were taken but no oviparous females were found. By the middle of January a decrease in their numbers became apparent and by the end of February no more could be found. Whence came these vast hordes and what factors enabled them to multiply so rapidly? The following collections were made: on slash pine, Gainesville (Univ. of Fla. Campus), 12/13/1943, F-2402-43; on loblolly pine, Gainesville (Agri. Exp. Sta.), 1/5/1944, F-2421-44; on spruce pine, *Pinus glabra* Walt., Gainesville (Agri. Exp. Sta.) 1/5/1944, F-2423-44; and on longleaf pine, *P. australis* Michx. f., Gainesville (Univ. of Fla. Campus), 1/5/1944, F-2424-44.

Cinara carolina Tissot

This still remains by far, the most prevalent and numerous species of the group in Florida. Specimens were taken as follows: on loblolly pine, Gainesville (near Newnan Lake), 4/10/1940, F-1886-40; Gainesville (Sugarfoot), 4/29/1940, F-1926-40; Gainesville, 4/8/1941, F-2134-41, J. S. Haeger, coll.; Gainesville (Agri. Exp. Sta.), 4/10/1941, F-2151-41; Mandarin, 4/29/1941, F-2193-41, R. J. Wilmot, coll.; Wacasassa River, Levy County, 4/15/1942, F-2337-42, Tissot and E. West, colls.; Gainesville, 5/4/1942, F-2350-42; Gainesville (Agri. Exp. Sta.), 4/1/1943, F-2381-43 and 1/5/1944, F-2420-44; on spruce pine, Gainesville (Univ. of Fla. Campus), 3/3/1941, F-1986-41; Gainesville (Alachua Tung Oil Co.), 4/26/1942, F-2344-42; on pond pine, Micanopy, 4/14/1941, F-2164-41; and on slash pine, Gainesville (Univ. of Fla. Campus), 4/7/1943, F-2387-43.

Cinara juniperivora (Wilson)

Four collections of this cedar inhabiting aphid were made, all being taken on the southern redcedar, *Juniperus silicicola* (Small) Bailey: at Alachua, 3/11/1941, F-1989-41, Erdman West, coll.; Grove Park, 3/31/1941, F-2096-41; Starke, 3/29/1942, F-2256-42, W. A. Murrill, coll.; Wacasassa River, Levy County, 4/30/1943, F-2390-43, A. N. Tissot, G. H. Parrot and E. West, colls.

Cinara longispinosa Tissot

This large lachnid with the peculiar, laterally expanded head was taken only on the spruce pine. Collections were as follows:

Gainesville, 5/5/1940, F-1944-40, Tissot and R. K. Buckley, colls.; Gainesville (Devil's Millhopper), 5/6/1940, F-1946-40 and 5/13/1941, F-2225-41; Gainesville, 4/21/1941, F-2187-41; and Gainesville (Alachua Tung Oil Co.), 4/26/1942, F-2343-42.

Cinara osborni new species

Alate Viviparous Female Figs. 1-7

COLOR.—Living aphids were used for making the following notes: Prevailing color brown. Head dark shining brown, eyes and ocelli black; a narrow band of white pruinose material between the antennal bases. First two antennal segments slightly lighter than the head, segments III to V pale yellowish-brown with apices dark brown, VI entirely dark brown. Thorax concolorous with the head except for the dorsal lobes which are dull black; the dorsal lobes and the scutellum more or less covered with pruinose material. Wings hyaline, stigma and anterior veins black, median vein grayish, cubital and anal veins pale at base getting gradually darker toward the apex. Femora of all the legs very pale yellow on basal half, mid portion light brown, apical portion very dark brown to black. Tibiae of all legs shining black at base and apex, mid-portions pale yellowish-brown, the pale area being smaller in the hind tibiae than in the others. Tarsi dark brown to black. Abdomen somewhat lighter than the thorax, with small oval or circular darker brown spots between and posterior to the cornicles. Cornicles black. Cauda and anal plate very dark brown. The white pruinose material forms a longitudinal row of spots on the dorsum, a patch anterior to each cornicle, and it practically covers the entire area between the cornicles and the cauda. It completely covers the ventral surfaces of the head, thorax and abdomen.

HEAD AND APPENDAGES.—Width of head across the eyes, .688 [3] to .755, ave. .717. Head about twice as wide as long, with rather prominent lateral projections supporting the eyes, the median suture distinct. Eyes large, with large circular ommatidia and prominent ocular tubercles. Ocelli large, the median one situated far down on the front of head. Head armed with numerous long, fairly heavy, slightly curved hairs which are situated on raised bulbous bases. Antennal segments III to VI somewhat uneven in profile; the antennal hairs reclinate and generally less heavy than those on the head; the sixth

[3] Measurements given in this paper are mm.

segment definitely imbricated, the others only slightly so. Sensoria slightly raised, varying greatly in size, the primary ones on V and VI always much larger than the others. Segment III with two to four sensoria on the apical half, IV with one or two situated near the apex, V with one smaller sensorium in addition to the large primary one, VI with four small sensoria grouped on one side of the primary one. Lengths of antennal segments as follows: III, .555 to .622, ave. .584; IV, .222 to .266, ave. .235; V, .266 to .311, ave. .286; VI, .166 to .200, ave. .175. Beak long, slender, sharply pointed, extending well beyond the hind coxae.

THORAX AND APPENDAGES.—Prothorax with a pair of prominent lateral tubercles situated far back, almost at the posterior margin. Fore wings with subcostal vein heavy and prominent; medial vein twice forked and very faint; stigma parallel-sided, its outer margin extending beyond the base of the radial sector. Legs armed with prominent hairs which are reclinate on all the segments, those near the middle of the hind tibia about twice as long as its diameter; length of hind tibia, 2.70 to 2.90, ave. 2.75. Hind tibia strongly curved, tibiae of the other legs less so. Length of hind tarsus exclusive of the claws, .311 to .366, ave. .331.

ABDOMEN.—Dorsum of the abdomen rather thickly set with slightly curved hairs which are generally shorter and finer than those of the legs; some of these hairs with dark areas surrounding their bases. Cornicles on very steep sided conical bases whose height is about half their greatest diameter at the base. Height of cornicle cones, .222 to .288, ave. .264; diameter at the base, .377 to .466, ave. .437. Cornicle bases armed with slightly curved hairs which are about as long, but somewhat less heavy than those at the middle of the hind tibia. Cauda and anal plate with curved hairs, longer and heavier than those on any other part of the body.

Apterous Viviparous Female Figs. 8-11

COLOR.—Prevailing color brown. Head dark, shining brown; eyes black. First antennal segment concolorous with the head, second somewhat lighter, third segment pale with apical one-fourth dark brown, fourth and fifth pale with about the apical third dark brown, sixth entirely dark brown. Thorax and abdomen brown, lighter than the head. Metathorax and all the abdominal segments with dark irregular broken patches on the dorsum, those on the thorax, the first abdominal segment,

and the segment between the cornicles largest and most compact. An irregular median white line partially divides the dark patches in the middle. Dark lateral patches on the metathorax and the first two abdominal segments. A patch of grayish waxy material anterior to the cornicles, and on each side of the metathorax. Femora of all legs with basal portion pale and apex dark brown. Fore and middle tibiae light brown with base and apex dark brown; hind tibiae with a smaller light portion on basal half. Tarsi dark brown. Cornicles black. Cauda and anal plate dark brown.

HEAD AND APPENDAGES.—Width of head across the eyes, .711 to .755, ave. .717. Front of head broadly rounded, dorsum convex, the median longitudinal suture distinct. Eyes large, situated on slight lateral projections; ocular tubercles less prominent than in the alate. Antennal segments III to V rather irregular in profile. Segment VI rather definitely imbricated, the apices of III to V slightly so. Segment III with one to three (usually one) sensoria near the apex; IV with one sensorium near the apex; V with one secondary sensorium, always smaller than the primary one; VI with a group of four to six small secondary sensoria on one side of the large primary one. Measurements of antennal segments as follows: III, .555 to .599, ave. .568; IV, .222 to .244, ave. .232; V, .266 to .277, ave. .268; VI, .155 to .177, ave. .167. Hairs on the head and antennae as in the alate, except that those on the antennae are somewhat shorter in proportion to the diameter of the joints than in the alate. Beak as in the alate, reaching well beyond the hind coxae.

THORAX, ABDOMEN AND APPENDAGES.—Legs as in the alate. Length of hind tibia 2.64 to 2.82, ave. 2.67. Length of hind tarsus exclusive of the claws, .311 to .355, ave. .333. Cornicle bases with sides somewhat less steep and with the outer margin more irregular than in the alate. Height of cornicles, .266 to .311, ave. .291; width at the base, .422 to .555, ave. .482.

TYPES.—The material of this species available for study consists of 46 microscope slides bearing 26 alate viviparous females, 24 apterous females and 7 immature specimens. An alate viviparous female taken on *Pinus taeda* L., on the Agricultural Experiment Station farm, 4/10/1941, F-2152-41 and an apterous viviparous female from the same colony, are designated as holotype and morphotype respectively. All of the remaining specimens are designated paratypes. The collection records of the paratypes are as follows: Gainesville, 3/22/1937,

on *P. taeda*, Geo. R. Swank, coll., F-1474-37 (this collection was misidentified and listed under *C. carolina* in the previous paper); Gainesville (Agr. Exp. Sta.), 4/10/1941, on *P. taeda*, F-2152-41; Gainesville (Agr. Exp. Sta.), 4/6/1943, on *P. taeda*, F-2385-43; Gainesville (Univ. of Fla. Campus), on *P. palustris* Mill., 1/5/1944, F-2425-44 and 1/18/1944, F-2428-44.

The holotype and morphotype deposited in the U. S. National Museum (Cat. No. 57186). The paratype material in the collection of the writer and in the collection of the Entomology Department, Florida Agricultural Experiment Station.

TYPE LOCALITY.—Gainesville, Florida.

TAXONOMY.—This aphid seems to be most closely related to *C. carolina* Tissot but the shape of the cornicle bases and the sensoria on the antennae serve to separate them easily. In *carolina* the cornicle bases are much broader and flatter and the sensoria are more numerous and more prominent than in this species.

This species is named for my former teacher, Dr. Herbert Osborn, whose help and guidance have been an inspiration to the many students who were fortunate enough to be associated with him.

Cinara saligna (Gmelin)

The synonymy of this large willow-feeding species with the prominent dorsal abdominal tubercle is considerably confused. Since having been described as *Aphis saligna* by Gmelin in 1788, it has gone under the generic names *Lachnus*, *Pterochlorus* and *Tuberolachnus* and the specific names *dentatus*, *punctatus*, *saligna* and *viminalis*. Various combinations of these names occur in literature. Miller, (The American Midland Naturalist, 19: 658-672, 1938) sinks *Tuberolachnus* Mordvilko, the genus under which this aphid has been most generally placed, under *Cinara*, and as the validity of the specific name *saligna* appears to be pretty certainly established, the name as used above seems the best now available for the species. The Florida records are: St. Petersburg, 2/13/1941, on *Salix* sp., B. C. Neeld, coll., F-1972-41; Bradenton, 3/24/1941, on *Salix longipes* Anders., F-2062-41; Rochelle, 4/4/1941, on *S. longipes*, F-2113-41; and Gainesville (Devils Millhopper), 5/13/1941, on *S. longipes*, F-2224-41.

Cinara wacasassae new species
Alate Viviparous Female Figs. 12-18

COLOR.—Living aphids were used for making the observations on color. This aphid is predominantly brown though the color is partly obscured by the waxy secretion which covers portions of the body. Head, medium brown; eyes black; ocelli very dark brown. First antennal segment concolorous with the head, second lighter than the first, the remaining segments pale to slightly dusky with apices dark brown. Thorax about same color as the head, except for the dorsal lobes which are shining blackish-brown. Wings hyaline with venation pale. Femora of all legs with basal two-fifths pale (practically hyaline), apical three-fifths very dark brown. Tibiae of fore and middle legs rather uniform blackish-brown, the hind tibiae somewhat lighter toward the base, but with the extreme base very dark brown. Tarsi of all the legs pale except for the extreme apex and the claws which are dark brown. Abdomen slightly lighter than head and thorax with a large dark brown area around each cornicle. Cornicles black. Cauda and anal plate concolorous with abdomen. The waxy secretion commonly assumes the following pattern on the abdomen; three more or less interrupted transverse bands on the dorsum near the base, a narrow transverse stripe between the cornicles, another behind the cornicles, the sides of the abdomen rather completely covered.

HEAD AND APPENDAGES.—Width of head across the eyes, .688 to .777, ave., .714. Head broadly rounded in front, nearly semi-circular in outline when viewed from above. Eyes large, globular, with circular ommatidia, ocular tubercles prominent. Lateral ocelli situated close to the eyes. Dorsum of the head with numerous long, fine hairs. Antennae short and rather thick, segments III to VI faintly imbricated. The unguis of VI arising abruptly, slender and finger-like. Sensoria large, rather irregular in shape, and strongly tuberculate. Segment III with 5 to 8 sensoria arranged in a fairly straight row, the basal one-third of the segment always free of them; IV with 2 or 3 sensoria; V with a secondary sensorium in addition to the larger primary one; VI with about 6 small secondary or accessory sensoria which are widely scattered and often at some distance from the primary sensorium. Antennal hairs long, fine, standing at an angle of 45 to 60 degrees. Length of antennal segments as follows: III, .377 to .466, ave., .421; IV,

.155 to .222, ave., .180; V, .177 to .222, ave., .199; VI, .133 to .177 + .033 to .055, ave., .155 + .042. Total antenna, 1.13 to 1.31, ave., 1.19. Beak reaching well beyond the hind coxae, the fifth segment long and acute.

THORAX AND APPENDAGES.—Subcosta of the fore wing strongly developed, the other veins rather weak, the median vein very faintly indicated, twice branched. Stigma with sides nearly parallel, its outer apical margin extending well beyond the base of the radial sector. Legs rather short, thickly beset with long slender hairs which are mostly reclinate, but inclined to be more erect on the outer side of the fore and hind tibiae and the bases of the femora; the longest hairs near the middle of the hind tibia measuring .254. Length of hind tibia, 1.55 to 2.11, ave., 1.93; length of hind tarsus exclusive of the claws, .290 to .317, ave., .307.

ABDOMEN.—Surface of the abdomen thickly beset with long slightly curved hairs, some of the longest on the dorsum measuring .185. Cornicles situated on rather flat conical bases which have very irregular outer margins. Hairs on cornicle cones varying in length from .053 to .133, the longest situated on the base of the cones and the shortest at their apex. Cauda broadly and evenly rounded, both it and the anal plate with long, slightly curved hairs measuring up to .215 in length.

Apterous Viviparous Female Figs. 19-21

COLOR.—Prevailing color brown; in life, a pruinose covering gives portions of the body a silvery-grey appearance. Head very dark brown; eyes black; first antennal segment concolorous with the head, second lighter brown, the remaining segments pale, with light brown apices. Beak dark brown at base and apex with lighter middle portion. Thorax brown, somewhat lighter than the head, dorsum with two broad diverging black bands which extend back to the second abdominal segment and form a very conspicuous inverted V. In cleared specimens these diverging bands are seen as closely placed, paired, dark, quadrangular patches on the thoracic segments and smaller more irregular ones on the first two abdominal segments. Aside from these bands the thorax is rather densely covered with pruinose material. Femora with basal halves pale and apical halves dark brown, tibiae light at base and shading darker toward the apex; tarsi dark brown. Abdomen dark bronzy-brown, with the pruinose covering less dense than on the thorax.

Cornicle cones black, each surrounded by a large black or dark brown area, in some individuals these areas joined by a band of similar color. Cauda and anal plate concolorous with abdomen.

HEAD AND APPENDAGES.—Width of head across the eyes .711 to .755, ave., .729. Front of head broadly rounded, the median suture distinct. Eyes large, with large, circular ommatidia and prominent ocular tubercles. Antennae rather short and thick, armed with long fine hairs which are generally more erect than in the alate. Segment III without sensoria, IV with one to three small sensoria, V with one or two small secondary sensoria in addition to the larger primary one, VI with about six small accessory sensoria which are widely scattered as in the alate. Length of antennal segments as follows: III, .377 to .444, ave. .414; IV, .155 to .222, ave. .192; V, .200 to .222, ave. .211; VI, .133 to .177 + .044 to .055, ave. .155 + .046; total antenna, 1.11 to 1.29, ave. 1.21. Beak as in the alate, reaching well beyond the hind coxae.

THORAX, ABDOMEN AND APPENDAGES.—Form and length of the legs as in the alate. Length of hind tibia 1.46 to 1.68, ave., 1.61; length of hind tarsus exclusive of the claws, .290 to .317, ave., .308. Surface of the abdomen thickly beset with long slightly curved hairs, some of which have irregular dark areas around their bases. Cornicle bases with very irregular margins as in the alate. Hairs on these bases measuring .026 to .132, the shortest being at the apex of the cone and the longest near the base. Cauda and anal plate as in the alate.

TYPES.—Two collections of this species have been made. The specimens taken, consisting of seven alate viviparous females and 42 apterous females are mounted on 25 microscope slides. The collection records are as follows: Wacasassa River, Levy County, Florida, 4/15/1942, on southern redcedar, *Juniperus silicicola* (Small) Bailey, A. N. Tissot and Erdman West, colls., F-2254-42 and Gainesville, 4/25/1942, on *J. silicicola*, A.N.T., coll., F-2342-42. An alate viviparous female and an apterous viviparous female (F-2254-42) are designated as holotype and morphotype respectively, the remaining specimens being designated paratypes. The two slides bearing the holotype and morphotype (each bearing a paratype specimen) are deposited in the U. S. National Museum (Cat. No. 57187). The paratype material in the collections of the Entomology Depart-

ment, Florida Agricultural Experiment Station and of the writer.

TYPE LOCALITY.—Wacasassa River, Levy County, Florida.

TAXONOMY.—This species appears to be closely related to *C. juniperi* (DeGeer) and *C. sibiricae* (Gillette and Palmer) and more extensive collecting and study may prove them to be identical. However, certain morphological and biological features indicate that this species is distinct from the others and it is so considered here. In the apterous female, the cornicle base is much broader in *sibiricae* than in *wacasassae* (.55 and .35 respectively). The hairs on the body and appendages are considerably longer in *wacasassae* than in *sibiricae*. Swain (Ent. News, 32: 213, 1921) gives measurements of *C. juniperi* based on specimens in the British Museum, which indicate an appreciable difference in the relative lengths of the antennal segments in that species and *wacasassae*. Average lengths are as follows: *juniperi*—III, .364; IV, .168; V, .224; VI, .238; *wacasassae*—III, .421; IV, .180; V, .199; VI, .197. The widely spaced accessory sensoria on antennal segment VI appear to be a characteristic feature of *wacasassae*. All specimens of this species have been taken in colonies on fairly large branches, beneath "ant sheds" constructed by the large brown carpenter ant, *Campanotus abdominalis floridanus* (Buckley). Gillette and Palmer state that *sibiricae* is solitary on the bark of twigs.

Cinara tujafilina (Del Guercio)

Only one collection of the arborvitae aphid was made during the past five years though it could no doubt have been taken on numerous occasions. The record is as follows: Gainesville (Univ. of Fla. Campus) 4/7/1943, on arborvitae F-2389-43.

EXPLANATION OF PLATE II

Cinara osborni n. sp. Figs. 1-11

1-7,alate viviparous female: 1, head; 2, antenna; 3, antennal segment VI; 4, beak; 5, cornicle; 6, basal portion of hind tibia; 7, hind tarsus.

8-11, apterous viviparous female: 8, head; 9, antenna; 10, antennal segment VI; 11, cornicle.

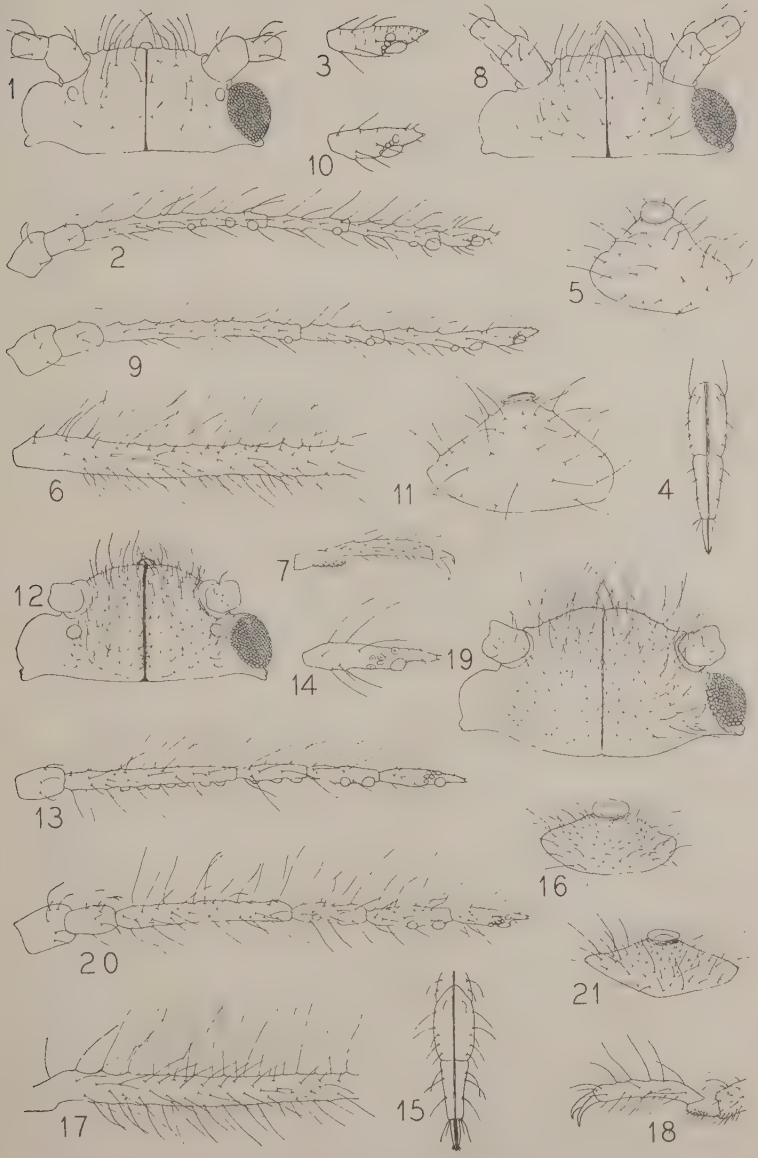
Cinara wacasassae n. sp. Figs. 12-21

12-18, alate viviparous female: 12, head; 13, antenna; 14, antennal segment VI; 15, beak; 16, cornicle; 17, basal portion of hind tibia; 18, hind tarsus.

19-21, apterous viviparous female: 19, head; 20, antenna; 21, cornicle.

Figs. 3, 10, and 14 are 75X, all others are 45X.

PLATE II.



Cinara watsoni Tissot

Only a few individuals of this large species have ever been found together and apparently it never forms large colonies. Collections were made as follows: on loblolly pine, Gainesville (Sugarfoot), 5/20/1940, F-1938-40; (Agr. Exp. Sta.), 4/10/1941, F-2150-41; Gainesville, 5/4/1942, F-2349-42; 5/21/1942, F-2359-42; (Agr. Exp. Sta.), 4/6/1943, F-2384-43; on pond pine, Micanopy, 4/14/1941, F-2162-41; on slash pine, Gainesville (Univ. of Fla. Campus), 4/7/1943, F-2388-43; 12/13/1943, F-2417-43; 1/5/1944, F-2426-44; and on spruce pine, Gainesville, 4/21/1941, F-2183-41.

Unilachnus parvus (Wilson)

New records of this small needle-feeding lachnid are as follows: on loblolly pine, Gainesville (Sugarfoot), 3/5/1941, F-2027-41; (Agr. Exp. Sta.), 4/10/1941, F-2153-41; 5/4/1942, F-2353-42; 1/5/1944, F-2422-44; on spruce pine, Gainesville (Devils Millhopper), 5/6/1940, F-1948-40; Gainesville, 4/21, 1941, F-2182-41; and on slash pine, Gainesville, (Univ. of Fla. Campus), 12/13/1943, F-2419-43.

Longistigma caryae (Harris)

This very large aphid appears to have had a period of unusual abundance during the years 1940 to 1942. A number of new hosts have been added to the list of its food plants. The following collections have been recorded: on *Castanea ashei* Sudw., Gainesville (Univ. of Fla. Campus) 11/22/1940, F-1961-40; on *Juglans* sp., Gainesville (Agr. Exp. Sta.), 4/18/1941, F-2180-41; on sand pear, *Pyrus pyrifolia* (Burm.) Nakai, Gainesville (Agr. Exp. Sta.), 4/23/1941, F-2188-41; on pecan, Pensacola, 6/27/1939, R. U. Reedy, coll., F-1834-39; Pensacola, 6/20/1942, E. H. Finleyson, coll., F-2361-42; on laurel oak, *Quercus laurifolia* Michx., Gainesville, 12/11/1940, A.N.T. and Nathan Carson, colls., F-1965-40; on water oak, *Q. nigra* Linn., Tampa, Dec. 1940, coll.?, F-1963-40; Gainesville (Alachua Tung Oil Co. Farm), 12/1/1940, F-1964-40; St. Petersburg, 1/16/1942, B. C. Neeld, coll., F-2238-42; on live oak, *Q. virginiana* Mill., Gainesville (Univ. of Fla. Campus), 1/8/1941, F-1966-41; on oak trees (species not known), Gainesville, 4/16/1941, N. Carson, coll., F-2173-41; Tampa, 2/16/1942, G. Syd Lenfesty, coll., F-2246-42; taken in flight, Gainesville, 3/25/1941, N. Carson, coll., F-2074-41; Gainesville, (Univ. of Fla. Campus), 11/24/1941, F-2233-41.

The
FLORIDA ENTOMOLOGIST

Official Organ of the Florida Entomological Society
Gainesville, Florida

VOL. XXVII NOVEMBER, 1944 NO. 3

J. R. WATSON, Gainesville.....*Editor*
C. B. WISECUP, Box 3391, Orlando.....*Business Manager*

Issued once every three months. Free to all members of the Society.

Subscription price to non-members is $1.00 per year in advance; 35 cents per copy.

DREPANAPHIS TISSOTI,[1] A NEW SPECIES OF APHID FROM FLORIDA[2]

CLYDE F. SMITH

This species is easily recognized by the numerous accessory sensoria on antennal VI. Most of the known North American species of *Drepanaphis* have 4 accessory sensoria around the center primary sensorium. *Drepanaphis sabrinae* Miller usually has 5 or 6; *D. tissoti*, however has 8 to 14. The coloration of antennals I & II of *tissoti* is very similar to *D. nigricans* Smith but *tissoti* differs from *nigricans* in tubercles I and II being shorter, in averaging fewer sensoria on antenal III, and in having more accessory sensoria on VI.

COLOR: The following notes on the coloration of living material were contributed by Dr. Tissot:

Head—black with three longtudinal milk white stripes, one median and one on each side just inside the compound eyes, ocelli pale, eyes reddish. First two antennal segments dusky brown, segments III, IV and V very pale, with apices black, extreme base of VI pale, rest of basal portion dusky, filament dusky.

[1] Named in honor of Dr. A. N. Tissot of the Florida Agricultural Experiment Station, who collected this species and contributed notes concerning it.

[2] Research contribution No. 21, published with the aid of the State College Research Fund, Department of Zoology, North Carolina State College of Agriculture and Engineering of the University of North Carolina.

Thorax—dark brown to black, prothorax with two dorsal longitudinal white stripes and a white stripe on each lateral margin. Mesothorax with two white dots near anterior margin and two dorsal diverging interrupted white lines. Sides with white markings. Wings hyaline, veins light brown. Stigma dark brown with a clear area at middle of anterior margin; radial sector banded with dark brown at base, all veins except second anal with dark brown areas at their apices. Coxae and apical-halves of tarsi dark dusky brown, remainder of legs pale yellow.

Abdomen—brown; dorsal tubercles black, five dorsal longitudinal rows of milk white spots, a row of similar spots on each lateral margin, the portion behind the cornicles almost entirely white. Cauda greenish-white. Cornicles dark brown.

Cleared specimens show the following characteristic coloration: Fuscous on antennals I and II, joints of antennae, area around sensoria on antennal VI, all of filament except base, head, thorax, cornicles, tubercles, large spots on the sides of each abdominal segment cephalad of cornicles, and small areas around some of the dorsal abdominal hairs and tips of tarsi; rest of body and appendages pale. Wing hyaline, veins without dusky borders except at very tips, and base of radius.

MEASUREMENTS: Body 1.4 to 1.55 mm.; width through eyes .41 to .44; antennal III, .72 to .80; IV, .48 to .55; V, .49 to .56; VI, .10 to .11 plus 1.12 to 1.70; rostrum attaining 2nd coxae, rostral IV plus V, .09; hind tibiae .86 to .98; hind tarsi .10 to .12; cornicles .18 to .20; tubercle I, .01 to .02; II, .01 to .04; III, .19 to .27.

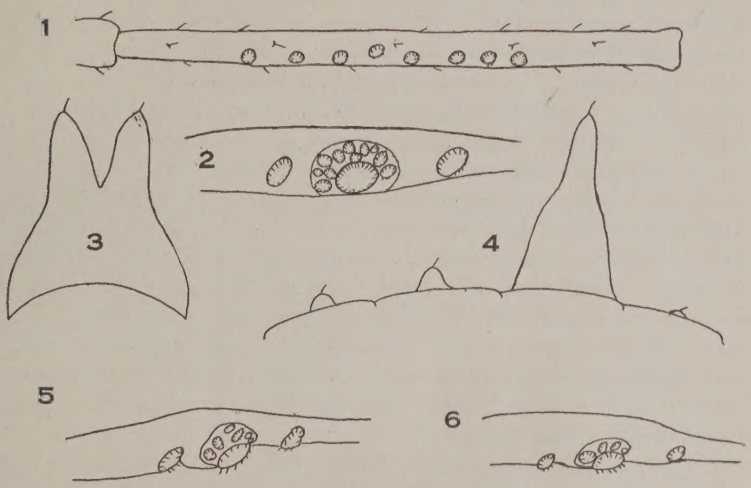
Antennal III with 6 to 11 sensoria, of 19 antennae examined, 2 had 6, 7 had 7, 3 had 8, 3 had 9, 3 had 10, and 1 had 11 sensoria. The middle sensorium on antennal VI bordered by 8 to 14 accessory sensoria. Tubercles I and II usually small and inconspicuous; II may be quite conspicuous; III always prominent and conspicuous.

TYPES: Holotype in the United States National Museum; paracotypes and paratypes in the collection of Dr. Tissot and the writer.

TYPE LOCALITY: Hatchet Creek, near Gainesville, Florida.

COLLECTION: On *Acer rubrum*, Hatchet Creek, near Gainesville, Florida, May 5, 1941 (A. N. Tissot), holotype slide (1

specimen) 10 paracotype slides (12 specimens) ; April 19, 1944, 8 paratype slides, 8 specimens, A.N.T.



EXPLANATION OF PLATE

Drepanaphis tissoti Smith. Figs. 1 to 4. 1, antennal III; 2, section of antennal VI showing characteristics of sensoria (much enlarged); 3, caudal view of tubercle III; 4, lateral view of tubercles.

Drepanaphis sabrinae Miller. Fig. 5, section of antennal VI.

Drepanaphis carolinensis Smith. Fig. 6, section of antennal VI.

PRINTING

FOR ALL PURPOSES

Carefully Executed ● Delivered on Time

PEPPER PRINTING COMPANY

GAINESVILLE - - - - - - - - - - FLORIDA

***HERSE CINGULATUS* Fab as an armyworm**

The caterpillars of this moth are not uncommon on sweet potato vines, but one seldom sees many in a place. They occur scattered over the fields. However, the first week of July, 1944, they occurred in armies in several fields near Santa Fe, in Alachua County, Florida. They had completely stripped the leaves from one 30-acre field and had destroyed fully half of the leaves of another field of equal acreage. Several other fields in the neighborhood suffered lesser damage, the caterpillars completely stripping the plants of their leaves, including veins and mid-rib and had fed extensively on the petioles. They had evidently entered from adjoining fields and were making a complete destruction of the leaves as they moved forward, marching across the field like an army worm. Practically every leaf was destroyed. A few feet beyond the zone of destruction, practically none were to be observed. Behind this active front, there would be a scattering of worms but nothing left of the sweet potato vines except the up-standing petioles of the leaves and the stems. There were literally hundreds of thousands of the caterpillars in the fields. The armyworm habit was undoubtedly forced upon them as they consumed the potato leaves behind them, forcing them to move to new pasture. Most of the caterpillars were in an advanced stage of their development, dark brown with black stripes in color, or green with heavy black stripes bordered with yellow and the sides with prominent V-shaped black markings. A few half grown caterpillars were observed. The surrounding fields and woods carried a considerable supply of wild morning-glory vines. These were probably the source of the infestation. Santa Fe is quite a center for the cultivation of sweet potatoes. This insect gives promise of being a first class pest. J. R. Watson

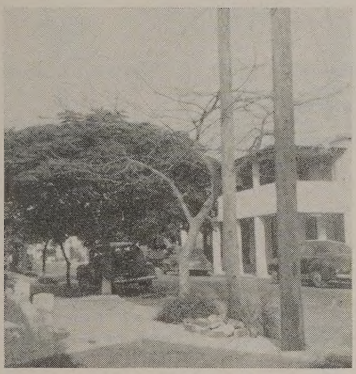
---

THE DAMAGE OF MELIPOTIS ACONTIOIDES TO THE ROYAL POINCIANA

J. R. WATSON

The Royal Poinciana is justly famous as one of the most beautiful shade trees in southern Florida. Until the past three years, we had received no complaints of insect damage to these trees, but in January 1942, as reported in the Florida Entomolo-

gist of December 1943, we received complaints and caterpillars from St. Petersburg, Florida. These caterpillars, we were able to raise out and have identified by authorities on Lepidoptera in the Bureau of Entomology and Plant Quarantine, U. S. D. A. Because we could not get them to feed on any relative of the Poinciana which grows in the Gainesville section, we were not able to study their life history.



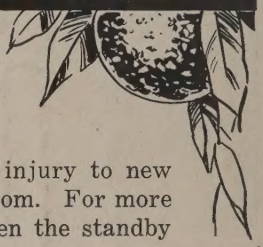
During the past year, we have had complaints of severe damage from Ft. Myers and especially Key West, through Mr. Stephen C. Singleton, manager of the Key West Chamber of Commerce. He states that the defoliation, due to the caterpillars of this noctuid moth became alarming in July of 1943 and many trees were defoliated during that summer. These defoliated trees did not put out any new growth until June of this year. A normal Poinciana tree in that section drops its leaves in November or December and puts them out in March or April so that the retarding of the leafing of these trees was marked—so marked that Mr. Singleton decided that they were dead in April and May. This retarding of leafing due to the defoliation by the caterpillars is just the reverse of what we see in such trees as pecans and hawthornes. When these trees are defoliated, in the late summer or early autumn, by the fall army worm, tent caterpillar or walnut defoliator, they are very apt to put out a flush of new leaves in the fall, which, with pecans, seriously interferes with the blossoming and nut setting the following spring.

This damage to the Royal Poinciana, if repeated year after year, will certainly have a very injurious effect on the trees. Some trees are killed. We are reproducing a photograph that Mr. Singleton took of one of these defoliated trees during the first part of June of this year. This shows a tree in the background which was not defoliated, with normal foliage. We very much need to study the life history of this pest and hope that some of our readers who are located in the region where the Royal Poinciana grows will make some observations. Its life history seems to be very interesting.

(To be continued)

"Black Leaf 40"

KILLS CITRUS APHIS



Protect the fruit and foliage from *Citrus Aphis.* Spray with "Black Leaf 40" while the foliage is young and the infestation is light. Prevent injury to new growth, especially while trees are in bloom. For more than 30 years "Black Leaf 40" has been the standby of particular growers.

ASK YOUR EXPERIMENT STATION

For many years leading authorities have endorsed "Black Leaf 40." It kills insects not only by contact (hitting) but also by fumes. When you mix "Black Leaf 40" with lime-sulphur, oil emulsion, Bordeaux or calcium arsenate, or soap, you convert nicotine sulphate into volatile nicotine with powerful "gassing" properties.

Dusting is often more convenient than spraying on vegetables. The powerful nicotine fumes are released from the dust against the various sucking insects attacking these plants.

"Black Leaf 40" may be added to other standard sprays or dusts. It is highly concentrated, economical—a little goes a long way.

TOBACCO BY-PRODUCTS & CHEMICAL CORP.

Incorporated

LOUISVILLE, KENTUCKY

KILLS BY CONTACT AND FUMES